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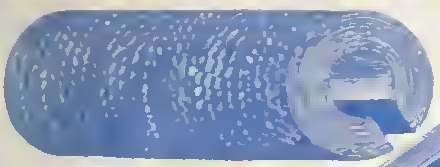
HERMAN FLETCHER,

AGENT FOR

SHIELDS & BROWN

Sole Owners & Manufacturers

OF BRADLEYS



INSULATED AIR COVERINGS

for

BOILERS,

STEAM, HOT AIR,

GAS & WATER PIPES

78 & 80 LAKE ST.

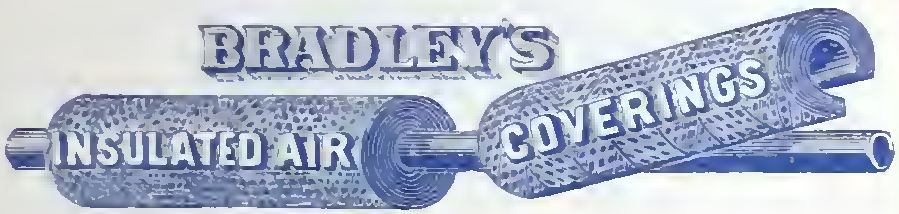
CHICAGO, ILL.

326 Main Street - LOUISVILLE, KY.

JAMES H. SHIELDS. FREDERICK E. BROWN.

SHIELDS & BROWN,

Manufacturers and Sole Proprietors of



FOR

BOILERS,

STEAM AND WATER PIPES.

78 & 80 Lake Street,

CHICAGO.

NATIONAL EXPOSITION OF RAILWAY APPLIANCES

AWARDED TO

Shields & Brown,

FOR

BOILER AND PIPE

COVERING.

CHICAGO. 1883.

THE NATIONAL EXHIBITION

OF

RAILWAY APPLIANCES,

Held in Chicago during May and June, 1883, awarded to

SHIELDS & BROWN.

FOR THE

Best Boiler and Pipe Covering,

THE SILVER MEDAL,

Being the Highest and Only Prize given for that class of goods.

At the late National Exhibition of Railway Appliances, Messrs. Shields & Brown made a very handsome display of Steam Pipe and Boiler Coverings, which attracted much attention. They also covered over a thousand feet of pipe in the Exposition Building, thus illustrating the superior merit and value of their coverings to all interested visitors.

This enterprising firm were awarded by the Exhibition the Silver Medal which was offered for the best boiler and pipe covering. There were five other exhibitors present in the same line, and the fact that Shields & Brown carried off the honors demonstrates conclusively that their goods are what they claim, namely, the best non-eondueting, the most durable, the easiest applied, and the neatest coverings in the market.—*Railway Age.*

OFFICE OF

SHIELDS & BROWN,

78 & 80 Lake Street,

CHICAGO, ILL.

EVER since the introduction of steam, it has been a great and growing question how to prevent the radiation of heat from steam surfaces, and obviate the bad effects of condensation.

Thos. Box, a well-known English authority on the subject, in his "Practical Treatise on Heat," says: "Of the loss of heat by a horizontal cast iron pipe, four inches bore, heated with steam inside at 212°, and freely exposed to air, etc., at 60°, even with the great thickness of four inches [of iron], the external temperature is only 5° less than that of the steam; with a thickness of one inch, the difference is less than 1°, and, of course, with a pipe of the ordinary thickness of $\frac{5}{16}$ to $\frac{1}{2}$ inch, the external temperature will be sensibly the same as the internal, and the assumption that the heat lost is proportional to the external diameter is practically correct. The loss of heat by naked pipes to steam engines, etc., is very considerable, and where the length is great, it becomes serious, not only from the waste of fuel, but from the formation of water

by condensation, which is obstructive to the working of the engine. This loss may be greatly reduced by casing the pipes in a material which conducts heat badly; woolen felt is the best and cheapest material.

"For illustration of the effect of casing with different materials, we will take the case of a pipe four inches outside diameter, heated to 212°, freely exposed to air and radiant objects at 60°, cased in different thicknesses of various materials, and covered with thin canvas, showing the effect of the varying conducting power of casings on the loss of heat.

Material of the Covering.	Conducting Power of the Casing.	Casing ½ in. thick.				Casing 1 in. thick.			
		Loss of Heat per hour.			Temp. of the External Surface	Loss of Heat per hour.			Temp. of the External Surface
		Per Foot Run.		Per Ft. Square		Per Foot Run.		Per Ft. Square	
		Units.	Ratio.	Units.		Units.	Ratio.	Units.	
Woolen Felt,	.323	93	.29	71	107°	56	.175	35.7	86°
Saw Dust, (Mahogany)	.523	131	.409	100	123°	86	.269	54.9	98°
Fir Wood...	.718	166	.519	127	137°	119	.372	76.0	110°
Coal Ashes..	1.29	225	.703	172	158°	173	541	110.	129°
Plaster, Common,	3.86	313	.978	239	188°	299	.934	191.	168°

"It will be observed that with low conductors, such as woolen felt, the loss becomes rapidly less with increase in thickness. Very thin casings of felt are effective in reducing the loss of heat; thus, ¼ inch reduces the loss to less than half the amount with a naked pipe."

From the foregoing testimony, it is readily seen that wool felting stands at the head of the list of non-conductors; and no further proof than the high authority quoted is necessary to convince any scientific man of the trustworthiness of the statements made.

It has long been known to practical men that confined air is one of the best non-conductors of heat; and the public are so well aware of this fact we need only call attention to it here, without producing any authorities on the subject.

Under the heading, "BRADLEY'S INSULATED AIR COVERINGS," on a succeeding page, we show wherein these goods combine all the elements of the two best known non-conductors of heat and cold, being so constructed of wool felting as to confine air in the body of the covering.

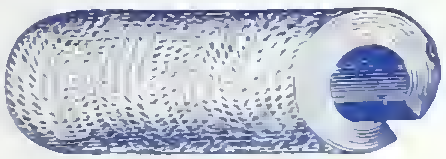
There have been a vast army of compositions and combinations placed upon the market under the name of *Pipe and Boiler Coverings*, but the great majority of them have been condemned after practical tests, failing either as non-conductors or in some of the important essentials of durability, finish, or cost.

Tile and cement coverings are easily cracked and broken by expansion and contraction caused by heating and cooling, and are objectionable for the further reason that when any repairing or overhauling has to be done the coverings are destroyed. Furthermore, by practical tests such coverings have

been shown to be poor non-conductors, ranking, as a class, on a par with common plaster.

Hair felt, when new, serves a good purpose, but it is a well-known fact that it is very short-lived, the effect of heat soon reducing it to dust.

Mineral wool, in itself, is of no value as a non-conductor. From different causes it is soon converted to sand, and the entire material will sift to the under side of the pipes, leaving only the casing as a protection. Besides these objections, the sulphur and other chemicals it contains are ruinous to iron.



"Bradley's Insulated Air Coverings"

ARE THE BEST IN THE WORLD

For the following reasons:—

1st. They combine the best non-conductors known.
2d. They do not powder down, char, or crack.
3d. For durability they are unequalled.
4th. They are light and portable
5th. They are easily put on or removed
6th. They are cleanly in application
7th. They are neat and regular in appearance.

We shall be pleased at all times to furnish estimates on any work that may be submitted, and quote prices to consumers for either large or small lots of covering. While we do not claim or advertise to have the cheapest goods in the market, yet we think we can convince anyone who will take the trouble to investigate that our coverings are all that we claim, and consequently the most economical to the purchaser.

We are pleased to publish herewith a few certificates, which need no comment, as the fact that such representative houses testify so commendably of our work, evidences better than any words of praise which we could use that our coverings give universal satisfaction wherever introduced.

As we know full well from past experience that wherever we get a customer we also secure an advocate, we unhesitatingly ask those in search of information, to find out for themselves what our patrons think of our goods, and, if possible, inspect the work, and to this end we publish the names of many of our best-known customers.

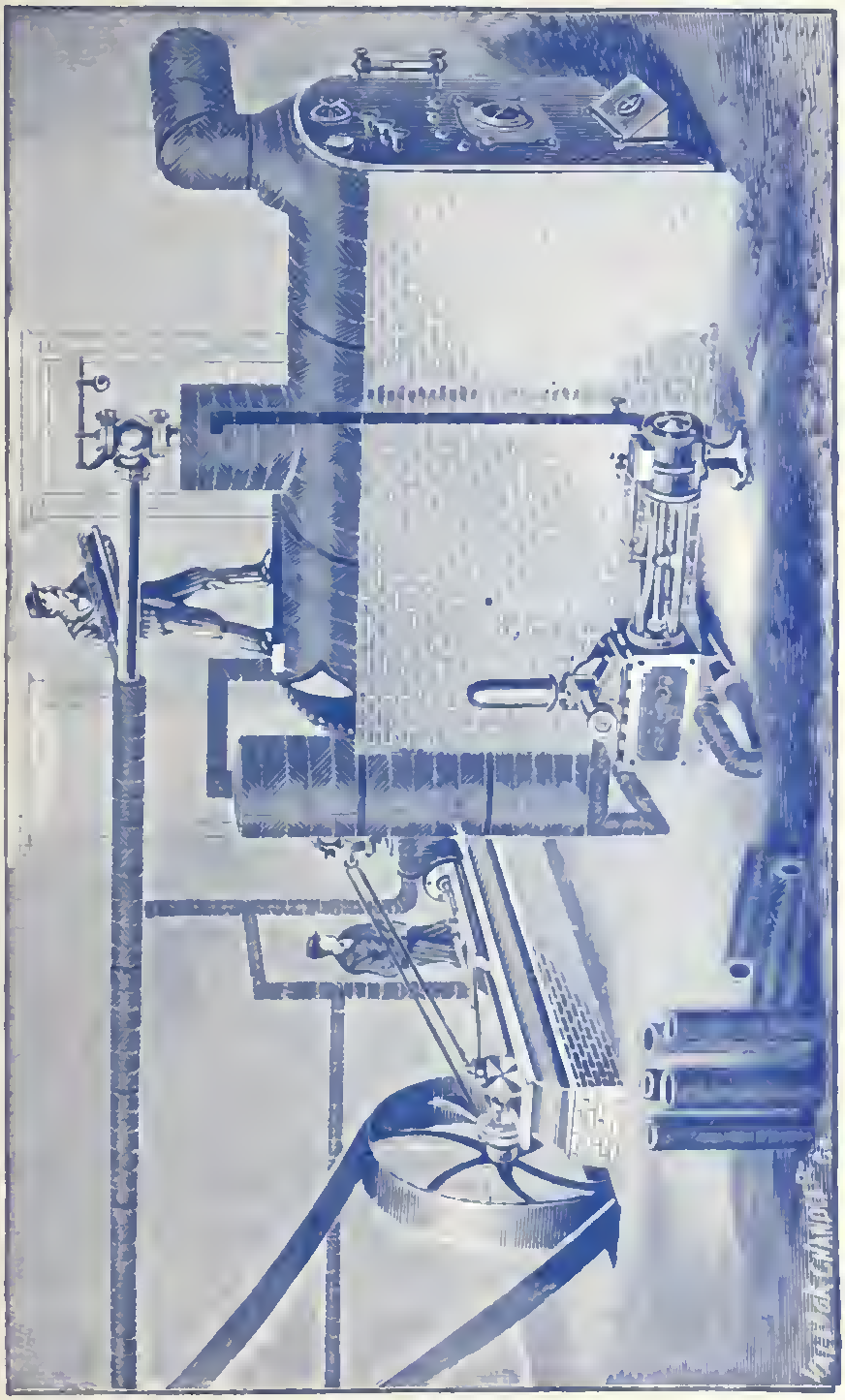
Trusting that we may hear from you whenever you are in the market for any goods in our line,

We are,

Very respectfully,

Your obed't serv'ts,

SHIELDS & BROWN.



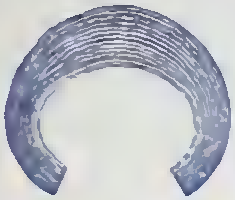
BRADLEY'S

INSULATED AIR COVERINGS

These coverings are made of layers of *Corrugated Soft Wool Felting*, lined on the inside, and intersected with layers of *Asbestos Lining Felt.* After having been wound on a mandrel to the size required, the layers of felting are secured together by sewing a tape through them, and this tape, being saturated with paste, thus cements together a strip seven-eighths of an inch wide, the entire length of the section. After the paste is dry, the section is then cut open with a knife through the center of this cemented strip. The layers of felting being corrugated, and not being held compactly together (excepting along the cut edges), the sections, when completed, are full of

CONFINED AIR SPACES,

and thus are combined the two best non-conductors of heat and cold, and by this union we produce a merchantable article of pipe and boiler coverings that is unequalled in all of its qualities for preventing radiation of heat and condensation of steam. These goods have also been found to be of great value for covering gas or water pipes, to protect them from freezing or "sweating."



BRADLEY'S INSULATED AIR COVERINGS are very light and elastic; they sustain no damage from contraction, expansion or shaking of pipes, and are not easily injured by transportation or handling.

THE ASBESTOS LINING

prevents carbonizing and ensures the indestructibility of these coverings at any temperature at which steam is used. For boilers, domes, or very large supply pipes, we frequently find it advantageous to form an inside confined air space, by first covering such surfaces with corrugated wire netting and asbestos lining felt, over which we place our regular Insulated Air Covering.

BRADLEY'S INSULATED AIR COVERINGS can be applied by any workman to either hot or cold surfaces. They are very readily put on, and can be quickly removed and replaced, when necessary, without damaging at all. They are made at our factory, ready for use, in

SECTIONS THREE FEET LONG,

for all sizes of pipes, and weigh about one pound per square foot, finished surface. The sections are secured with staples, which are driven along the seams about four inches apart; after which strips of corrugated paper, the same as that of which the sections are made, are pasted over the seams and joints, thus giving a neat and finished appearance.

THE ADVANTAGES SECURED

BY THE USE OF

BRADLEY'S INSULATED AIR COVERINGS.

Where these coverings are applied, hot and dry steam can be retained for any reasonable distance during the coldest of weather. In boiler and engine rooms, or apartments through which steam pipes are carried, their use will prevent radiation, and thus materially lessen the temperature of their surroundings, which is often a great consideration, especially in hot summer weather.

They will effect a

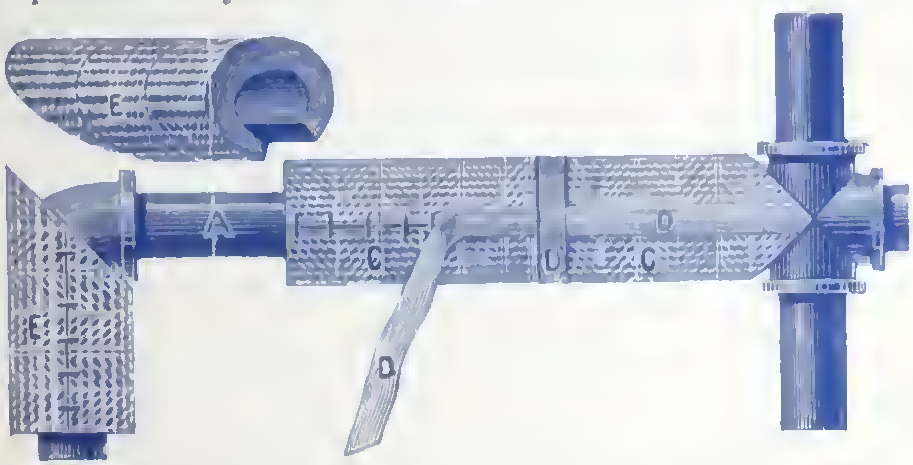
SAVING OF FUEL,

according to the atmospheric conditions and the location of pipes, amounting to *from ten to thirty per cent.* This will be especially noticeable in the winter time, when the cold air striking uncovered steam surfaces creates very rapid condensation, necessitating extra fuel to keep up the supply of steam. In many instances where parties have found their boiler capacity insufficient before covering, they have, after applying these Coverings, found that they had not only saved a large percentage of fuel, but also secured a surplus of power.

We solicit a thorough and careful investigation into the merits of the coverings we manufacture for Boilers, Steam, Gas or Water Pipes, and can guarantee our goods will give satisfaction.

Directions for Application

When applying to hot surfaces it is always preferable to have the heat on. Spring the sections open and pass them over the pipe; then draw the seams tightly together, and drive in the staples at a distance of about four inches apart. They should remain a few hours to admit



of shrinkage; then drive the ends snugly together, and secure the seams and joints with strips of felting, cemented with flour paste.

To make a neat job, care should be taken that the strips are so applied as that the corrugation will run the same way as the corrugation on the sections.

The work always looks neater if the seam is arranged to be out of sight; but if the covering is exposed to the weather, then it should be on the

lower side, and the covering should be protected by a thorough coat of paint. It is also a good plan in such cases to canvas the exposed surfaces, and then apply the paint, and thus an extremely durable and effective covering is secured.

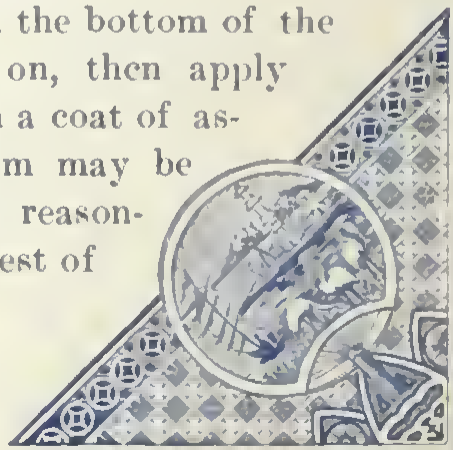
To cover elbows, T, etc., the sections are cut mitering. For cutting, use a fine saw.

Curved pipes are covered by cutting saw cuts across the sections, the same as a carpenter saws a piece of wood to bend around a circle.

To cover fittings, remove from the section inside sufficient material to admit of its passing over, and then paste asbestos paper over such fittings before applying the covering.

If preferred, a short section of a larger size may be made to cover the fittings, passing over them and lapping on to the regular covering, which is first applied to the pipe.

To convey steam underground, the pipe should be boxed. Nail blocks on the bottom of the box for the pipe to rest on, then apply the covering, finished with a coat of asphalt. In this way steam may be effectually conveyed any reasonable distance in the coldest of weather.



DIRECTIONS FOR ORDERING.

Give the measurements (inside diameter) of pipes required for, and the number of lineal feet of each size.

As there is so much variation in sizes and shapes, all coverings for boilers and drums must be made to order, and therefore diagrams and exact measurements (*over rivets*) should accompany all orders for such covering. Where a high pressure of steam is used it should be so stated, that we may furnish a corrugated wire netting and asbestos felting air space for the inside of the covering.

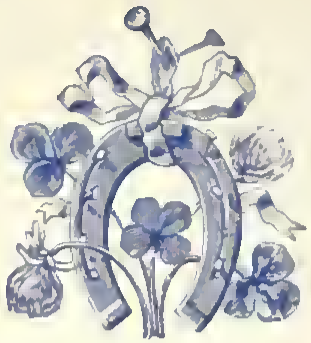
All sections are three feet long, and we do not cut them or sell less than a full section.

Staples and strips of felting accompany all orders, for which we make no extra charge.

The following table will show the measurements of the coverings, PER FOOT IN LENGTH, of some of the most common sizes:

Size of Pipe in Inches.	1½	2	2½	3	3½	4	4½	5	6	7	8
Sq. ft. of Covering for each foot in Length.	1	$1\frac{1}{12}$	$1\frac{1}{4}$	$1\frac{5}{12}$	$1\frac{7}{12}$	$1\frac{2}{3}$	$1\frac{11}{12}$	$2\frac{1}{12}$	$2\frac{1}{3}$	$2\frac{2}{3}$	3

All under $1\frac{1}{2}$ in. rated as one sq. ft. per lineal ft.



TESTIMONIALS.

PULLMAN PALACE CAR COMPANY,

PULLMAN, ILL., March 23d, 1883.

Messrs. Shields & Brown, Chicago, Ill.:

GENTLEMEN,—Replying to your inquiry in regard to the Bradley Insulated Air Covering for steam pipe, I will say that I consider it the best covering I have ever seen, being light, durable, easily applied, and as a non-conductor is superior to anything that has ever come under my notice. We have used about eighteen or twenty thousand feet at these works.

Yours truly,

N. W. ROBINSON,
Mechanical Engineer.

BRADNER SMITH & CO.,

PAPER MAKERS,

CHICAGO, March 24th, 1883.

Messrs. Shields & Brown, Chicago, Ill.:

GENTLEMEN,—After using the Bradley Insulated Air Covering, we are satisfied that it is all you claim for it. We have removed and replaced some of it several times without injuring its appearance even. When properly applied it greatly improves the appearance of steam pipes. We consider it decidedly the best covering yet introduced.

Respectfully,

BRADNER SMITH & CO.

FRASER & CHALMERS,

MANUFACTURERS OF

MINING MACHINERY, STEAM ENGINES & BOILERS,

CHICAGO, March 17th, 1883.

Messrs. Shields & Brown, City:

GENTLEMEN,—In answer to your inquiry about the pipe covering you have furnished us, would say that we have purchased of you over 1,200 feet of your Patent Covering, and consider it one of the best coverings in use. It has given us entire satisfaction. We have had no trouble with it. On account of its simplicity and apparent great durability, we have no hesitancy in recommending it to any party who may ask us.

Yours very truly,

FRASER & CHALMERS.

THE TRIBUNE,

CHICAGO, March 22d, 1883.

Messrs. Shields & Brown, City:

GENTS,—The Tribune Co. has used your Insulated Air Covering for boilers and steam pipe, and find it the best ever used in this office. I cannot recommend it too highly.

Yours truly,

C. KAHLER.

STUDEBAKER BROS. MFG. CO.,

CARRIAGE BUILDERS,

CHICAGO, March 22d, 1883.

Messrs. Shields & Brown, Chicago:

GENTLEMEN,—The steam pipe covering has given us entire satisfaction, and we consider it fully as good as anything of the kind we have used.

Yours very truly,

STUDEBAKER BROS. MFG. CO.

THE J. M. BRUNSWICK & BALKE CO.,

BILLIARD TABLES,

CHICAGO. ILL., April 3d, 1883.

Messrs. Shields & Brown, Chicago:

GENTLEMEN,—It affords us pleasure to comply with your request for a testimonial concerning the merits of your covering. We have referred the matter to our Mr. Blake, the engineer, and he states he has used the Bradley Covering about one year, and so far likes it very much, and thinks there is no better covering in the market.

Yours respectfully,

THE J. M. BRUNSWICK & BALKE CO.

RAND, McNALLY & CO.,

CHICAGO, March 27th, 1883.

Messrs. Shields & Brown, City.

GENTLEMEN,—In reply to your inquiry, have been much pleased with the covering placed on our steam pipes, especially the neat appearance when finished.

Very truly,

RAND, McNALLY & CO.

JAMES S. KIRK & COMPANY,

SOAP MAKERS,

CHICAGO, April 4th, 1883.

Messrs. Shields & Brown, City:

GENTLEMEN.—In regard to Bradley's Insulated Air Covering For lightness, finish and non-conducting qualities, it is fully up to, if not better, than any covering we have in use. It gives us entire satisfaction, and we feel safe in recommending it.

Respectfully yours,

JAS. S. KIRK & CO.

THE NATIONAL SAFE DEPOSIT CO.,

CHICAGO, July 26th, 1883

Messrs. Shields & Brown, Chicago, Ill.:

GENTLEMEN,—It affords us pleasure to testify to the merits of your Bradley Insulated Air Covering, which we have in use on all our steam pipes, boilers, &c., in the First National Bank Building. The fact of our giving you the preference in this covering over all competitors should be sufficient evidence that we have lost no faith in its merits.

Very respectfully,

F. D. GRAY, *Supt.*,
First National Bank Building.

DETROIT CUMMER ENGINE CO.,

DETROIT, MICH., March 17th, 1883.

Messrs. Shields & Brown, Chicago, Ill.:

GENTLEMEN,—Your favor of 14th inst. to hand, and would reply that we have used the Bradley Insulated Air Covering for steam pipes with good results. It is a good non-conductor of heat, and is easily applied. We think highly of it. Yours truly

DETROIT CUMMER ENGINE CO.

STOVER MANUFACTURING COMPANY,

MACHINERY, FARM IMPLEMENTS, &c.

FREEPORT, ILL., March 16th, 1883.

Messrs. Shields & Brown, Chicago, Ill.:

GENTLEMEN,—Yours of 14th inst. at hand. In reference to your covering for steam pipe, will say that we think it is a good article and a great saving in fuel. We would not do without it, as we think it has more than paid for itself many times over. We shall be pleased to recommend it

Yours truly,

W. A. MERRIFIELD, *Sec'y.*

THE JOHN T. NOYE MANUFACTURING CO.,

ROLLER MILLS & FLOUR MILL MACHINERY,

BUFFALO, N. Y., March 16th, 1883.

Messrs. Shields & Brown, Chicago, Ill.:

GENTLEMEN,—We are in receipt of your favor of the 14th, and in reply beg to say that we have had Bradley's Insulated Air Covering in use on steam pipes and boiler domes for the past year, and consider it much better than any other covering with which we are familiar. It is very convenient to apply and take off and re-apply, when necessary to do any work on the pipes. Heat radiation is almost entirely avoided, and when in place the covering presents a very neat appearance. We shall want more of it when occasion demands the use of covering.

Yours truly,

THE JOHN T. NOYE MFG. CO.

FT. MADISON PAPER CO.,

FT. MADISON, IOWA, March 15th, 1883.

Messrs. Shields & Brown, Chicago:

GENTLEMEN,—In reply to yours of the 14th inst., would say your Insulated Air Covering is decidedly the best thing we have ever seen for the purpose.

Yours respectfully,

FT. MADISON PAPER CO.

TOPEKA MILL & ELEVATOR CO.,

TOPEKA, KAN., March 16th, 1883.

Messrs. Shields & Brown, Chicago, Ill.:

GENTS,—We are using your Insulated Air Covering, and are entirely satisfied with it.

Truly yours,

TOPEKA MILL & ELEVATOR CO.

Insurance Companies Recommend It.

Chicago, July 30th, 1883.

Messrs. Shields & Brown, Chicago, Ill.:

Gentlemen,—Concerning your "Bradley's Insulated Air Covering," we can state that we have no hesitancy in recommending it to any parties who desire covering for steam-heated surfaces, as we see no reason why the use of your covering should increase the fire risk.

Yours truly,

T. H. BOWDEN,
R. H. TRIMINGHAM.

We, the undersigned underwriters of Chicago, concur in the above.

H. H. Brown,
S. M. Moore & Co.,
D. S. Munger & Co.,
R. W. Hosmer & Co.,
W. H. Cunningham & Co.,
R. A. Waller & Co.,
Edward M. Teall & Co,
W. G. McCormick & Co,
Thos. & W. A. Goodman,

HOOSIER DRILL COMPANY,

Richmond, Ind., March 15th, 1883.

Messrs. Shields & Brown, Chicago, Ill.:

Gentlemen,—We are very much pleased with the pipe covering furnished us. It is very easily applied; any person can put it on without any trouble, and make a nice, neat job of it. One of the principal features that we like very much is that it can easily be taken off and used again. We are constantly making changes, and the pipe covering used before by us was always a loss when we made any changes, This, we think, will be as good the second time as it was the first.

Yours truly,

HOOSIER DRILL CO.

CHICAGO REFERENCES.

We are pleased to refer to the following well-known manufacturers and business houses in Chicago, who have our coverings in use:

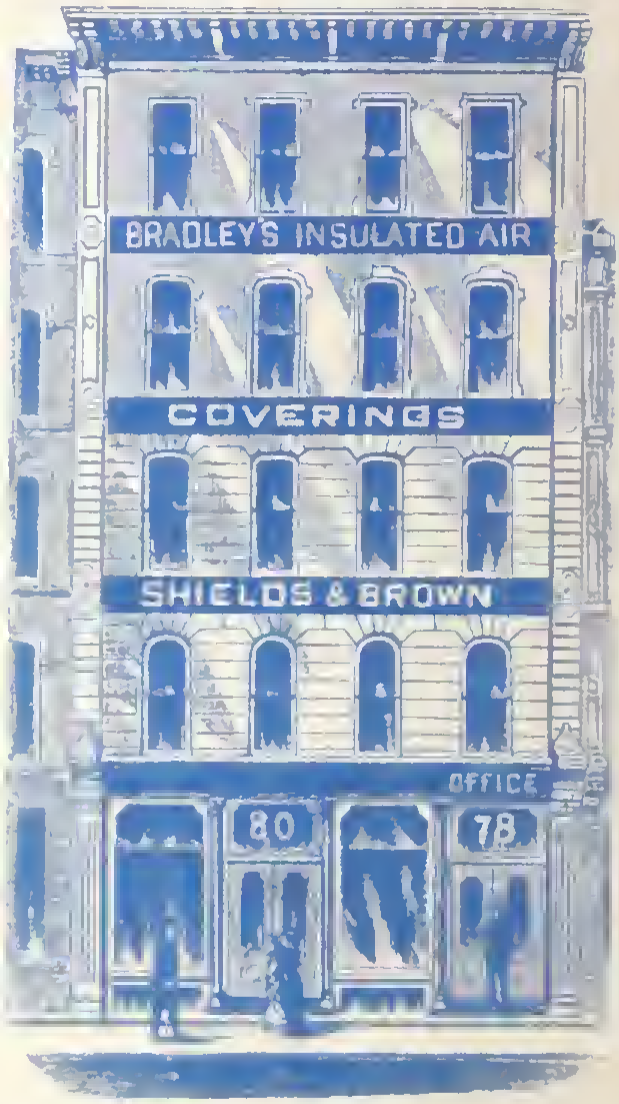
Alston Mfg. Co.—Wholesale Paints, Oils, &c.
Adams & Westlake Mfg. Co.—Lanterns, &c.
Asphalt Block Mfg. Co.
Academy of Music.
Bradner Smith & Co.—Paper Dealers.
J. M. Brunswick & Balke Co.—Billiard Tables.
Bradshaw & Wait.—Wholesale Syrups.
Burke, Walker & Co.—Wholesale Dry Goods.
Chicago Malleable Iron Co.
Chicago Newspaper Union.
Commercial Hotel.
Calumet Club House.
Chicago, Burlington & Quincy R. R. Office Building.
Davidson & Sons—Marble Works.
Chas. Emerich & Co.—Wholesale Feathers.
Fortune Bros.—Brewery.
A. B. Fielder—Mfr. Tassels and Fringes.
Fraser & Chalmers—Mfrs. Machinery.
First National Bank Building.
D. B. Fisk & Co.—Wholesale Millinery.
O. B. Green—Dredges.
Grand Pacific Hotel
A. S Gage & Co.—Wholesale Millinery.
Hibbard, Spencer, Bartlett & Co.—Wholesale Hardware.
Heath & Milligan—Wholesale Paints, Oils, &c.
Hess Malting Co.
Marvin Hughitt—Residence.
Jas S. Kirk & Co.—Soap Makers.
Jno. W. Masury & Son—Wholesale Paints, Oils, &c.

G. M Munger & Co.—Laundry.
G. Merz—Mfr. Cigar Boxes.
Cyrus H. McCormick—Reaper Block.
N. Y. Safety Steam Power Co.—Engines.
Pullman Palace Car Co. Works.
J. H. Pearson & Co.—Planing Mill.
E. B. Preston & Co.—Leather Belting.
Postal Telegraph Co.
Palmer House.
Race Bros.—Restaurant.
C. T. Raynolds & Co.—Wholesale Paints, Oils, &c.
Rand, McNally & Co.—Printers.
Studebaker Bros. Mfg. Co.—Carriage Builders.
J. J. Spalding & Co.—Printers.
Spaulding & Merrick—Mfrs. Tobacco.
P. Schoenhofen Brewing Co.
The Tribune Building.
Union Bag and Paper Co.
Wacker & Burk Brewing Co.
Wilson Bros.—Gents' Furnishing Goods.
Western Edison Light Co.
Wardell & Hinekley—Machinery.
Willoughby, Hill & Co.—Clothing.

AMONG many others throughout the United States who have our coverings in use, are the following well-known business houses, to any of whom we take the liberty of referring:

Freeport Mall. Iron Co. ..... Freeport, Ill.
Polo Mfg. Co.—Harvesters ..... Polo, "
Dick Bros.—Brewery ..... Quiney, "
Robert W. Gardner—Governors ..... " "
Jas. Bell—Saw Mill ..... Ullin, "
Besley Brewing Co. ..... Waukegan, "
Elgin Nat'l Watch Co ..... Elgin, "
Dimick, Gould & Co —Lumber ..... Moline, "
Ottawa Glass Co ..... Ottawa, "
Hamilton, Hodge & Monser—Coal Miners ..... Wenona, "
E. W. Albee—Crackers ..... Dubuque, Iowa.
Dubuque Oatmeal Mills ..... " "
Farley & Loetscher Mfg. Co ..... " "
Dubuque Lumber Co ..... " "
Iowa State Prison ..... Ft. Madison, "
Morrison Bros.—Plows ..... " "
John Morrell & Co —Packers ..... Ottumwa, "
N. Barry & Son—Gas Fitters ..... Museatine, "
Jos. Zimmerman—Saw Mill ..... Guttenberg, "
Perry, Pearson Co.—Lumber ..... S. Manisteque, Mich.
Gale Mfg. Co.—Agricultural Implements ..... Albion, "
Baugh Steam Forge Co ..... Detroit, "
Worden Furniture Co ..... Grand Rapids, "
Thos. R. Lyon—Lumber ..... Ludington, "
Dempsey, Simpson & Co.—Saw Mill ..... Manistee, "
Negaunee Concentrating Co ..... Negaunee, "
West Republic Mining Co ..... Republic, "
Saginaw Water Works ..... Saginaw, "
J. W. French Mfg. Co.—Paper ..... Three Rivers, "
Youmans Bros. & Hodgins—Lumber ..... Winona, Minn.
Peyton, Kimball & Barber ..... Duluth, "

Forest Mills Co.....Forest Mills, Minn.
Geo. Urban & Co.....Buffalo, N. Y.
Jno. T. Noye Mfg. Co.—Mill Machinery..... " "
Molino Mills.....Molino, Fla.
F. Fehr—Brewery.....Louisville, Ky.
Philips Furniture Co .....Kenosha, Wis.
Rundle, Spence & Co.....Milwaukee, "
Geo. Ziegler—Wholesale Confectionery.. " "
G. J. Hanson & Co.—Malt House..... " "
Milwaukee Rendering Co ..... " "
Voechting & Sharpe—Beer Bottlers..... " "
American Express Co. ..... " "
Johnston Bros.—Bakery ..... " "
Plankinton & Armour—Packers..... " "
Wm. Gerlach & Co —Malsters..... " "
Winnebago Paper Co.....Neenah, "
J. L. Clark & Son—Carriages..... Oshkosh, "
F. Carney & Co.—Lumber.....Marinette, "
Crocker Chair Co.....Sheboygan, "
O. Treadwell & Co.—Woolen Mill..Sheboygan Falls, "
Geo. Esterly & Son—Agrieult'l Imp'ts...Whitewater, "
Valley Lumber Co..... ..... Eau Claire, "
Haynes, Speneer & Co.—Mfrs. School Desks,
Richmond, Ind.
Hoosier Drill Co ..... " "
Brush Swan Eleetrie Light Co.....Cheyenne, Wy. T.
N. Ward Co —Mfrs. Tallow, &e..... .....Boston, Mass.
Woodman Linseed Oil Co.....Omaha, Neb.
Shreveport Cotton Compress Co.....Shreveport, La.



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